



INTERDISCIPLINARY SYMPOSIUM

OPEN TO ALL MEETING REGISTRANTS—PRE-REGISTRATION ENCOURAGED

S3 Technology: A Tool for Transformation or Tyranny?

TUESDAY, FEBRUARY 18, 2025

1:00 PM – 6:00 PM

CE HOURS: 3.5

Chair:

Yong Guan, Ph.D.

Professor, Department of Electrical and Computer Engineering,
NIST Center of Excellence in Forensic Sciences - CSAFE
Iowa State University
Ames, IA

Co-Chair:

Katharine Pope, MA, D-ABMDI

Research Public Health Analyst
Division for Justice Practice Area
Center for Forensic Science Advancement and Application, Investigations
RTI International
RTP, NC

Presenters:

Kenneth Aschheim, DDS, D-ABFO
Assistant Chief Forensic Odontologist
Office of Chief Medical Examiner
New York, NY

Zeno Geradts, Ph.D.
Professor, University of Amsterdam
Forensic Scientist, Netherlands Forensic Institute (NFI)
Amsterdam, Netherlands

JoAnn Buscaglia, Ph.D.
Research Chemist
Laboratory Counterterrorism and Forensic Science Research Unit (CFSRU)
FBI Laboratory
Quantico, VA

Thomas P. Paonessa Jr.
Distinguished Engineer /Chief Engineer,
Law Enforcement and Domestic Security (LEADS)
MITRE
McLean, VA


Alicia Carriquiry, Ph.D.
Professor, Department of Statistics,
Director, NIST Center of Excellence in Forensic Sciences - CSAFE
Iowa State University
Ames, IA

Katherine Scafide, PhD, RN, FAAN
Associate Professor
College of Public Health – Virginia's First!
School of Nursing
George Mason University
Fairfax, VA

Sarah P. Chu, PhD
Director of Policy and Reform
Perlmutter Center for Legal Justice at Cardoza Law
New York, NY

Hon. (ret.) Donald E. Shelton, JD, PhD
Director, Criminal Justice Program
Director, Criminal Justice Program
University of Michigan-Dearborn
Saline, MI





Nancy R. Downing
Professor
College of Nursing
University of North Texas – Health Science Center
Fort Worth, TX

Lucas Zarwell
Director
Office of Investigative and Forensic Sciences
National Institute of Justice (NIJ)
Washington, DC

Program Description: The 2025 AAFS Annual Conference’s Interdisciplinary Symposium (IDS) spotlights the theme **“Technology: A Tool for Transformation or Tyranny?”** through a dynamic program of three keynote talks and two engaging panel discussions. The free event brings together leading experts representing all sections of forensic science in a mission to explore how technology shapes the field. IDS keynote speakers are Dr. JoAnn Buscaglia from the FBI, Mr. Thomas P. Paonessa Jr. from MITRE, and Mr. Lucas Zarwell from the NIJ. Their presentations will address the integration of cutting-edge technology into forensic operations, the importance of adhering to the scientific method, and the challenges of transitioning innovative research into practical application.

The first IDS panel, moderated by Dr. Yong Guan, focuses on **“Artificial Intelligence (AI) in Forensics”** and features insights from Zeno Geradts, JoAnn Buscaglia, Thomas P. Paonessa Jr., Kenneth Aschheim, and Alicia Carriquiry. This session explores the dual role of AI in forensic science—its potential to enhance accuracy and efficiency, alongside ethical concerns such as bias and privacy risks. Speakers detail real-world case studies and emerging AI tools to shed light on the question of whether AI serves as a transformative ally or a potential threat in the pursuit of justice.

The second IDS panel, moderated by Katharine Pope, delves into **“Emerging Technologies and Legal Implications”** and features insights from Alicia Carriquiry, Lucas Zarwell, Donald Shelton, Katherine Scafide, Nancy Downing, and Sarah Chu. This session explores how advancements in forensic tools transform investigations while raising critical legal and ethical questions. Topics range from probabilistic genotyping and forensic investigative genetic genealogy to policies safeguarding data collected during the criminal process. The entire IDS aims to provide forensic professionals with valuable insights into leveraging technology responsibly while addressing its challenges, fostering a thoughtful and collaborative approach to the future of forensic science across the sections.

Educational Objectives: The 2025 IDS aims to provide attendees with an understanding of how emerging technologies are transforming forensic science and its applications in justice. Participants will gain insights into the dual role of artificial intelligence (AI) as both a tool for enhancing accuracy and a potential source of ethical challenges, such as systemic bias and privacy concerns. Presenters will also emphasize the importance of critical thinking and adherence to the scientific method in evaluating technological advancements, as well as the challenges of transitioning research into operational practice. By exploring real-world examples, legal implications, and case studies, attendees will learn how to responsibly adopt and integrate technologies such as probabilistic genotyping, forensic investigative genetic genealogy, and AI tools, while addressing ethical, legal, and practical concerns. Additionally, IDS aims to foster interdisciplinary dialogue on how technology can support victims of violence and uphold justice, ensuring that forensic innovations contribute positively to society.

Program:

1 - 1:10 PM

Welcome and Opening Remarks

Christopher R. Thompson, MD, AAFS President
Yong Guan and Katharine Pope, AAFS-IDS Program Co-Chairs

1:10 – 1:50 PM

Keynote Talk I: A Multidisciplinary Perspective on Research, Development, Technology, and Transition into Forensic Science Operations



JoAnn Buscaglia, FBI

1:50 – 2:30 PM

Keynote Talk 2: The Facts Matter --- Trust the Scientific Method
Thomas P. Paonessa Jr., MITRE

2:30-3:00 PM

Keynote Talk 3: A Perspective on Adopting New Technology in Forensics – This Isn't
"New"
Lucas Zarwell, NIJ

3:00 – 3:15 PM

BREAK

3:15 – 4:30 PM

PANEL 1: ARTIFICIAL INTELLIGENCE (AI) IN FORENSICS

Moderator

Yong Guan (Iowa State University & CSAFE)

Panel speakers

Zeno Geradts (University of Amsterdam & Netherlands Forensic Institute)
JoAnn Buscaglia (FBI)
Thomas P. Paonessa Jr. (MITRE)
Kenneth Aschheim (NYC - Office of Chief Medical Examiner)
Katherine Scafide (George Mason University, Forensic Nursing)

4:30 – 6:00 PM

PANEL 2: EMERGING TECHNOLOGIES AND LEGAL IMPLICATIONS

Moderator:

Katharine Pope (RTI, International)

Panel Speakers:

Alicia Carriquiry (Iowa State University & CSAFE)
Lucas Zarwell (NIJ)
Donald Shelton (Retired Circuit Judge of Michigan & University of Michigan)
Nancy Downing (University of North Texas - Health Science Center)
Sarah Chu (Perlmutter Center for Legal Justice at Cardozo Law)

RECEPTION & SOCIAL HOURS (TO BE CONTINUED AT)

AAFS WELCOME RECEPTION 6 – 8 PM

HILTON KEY BALLROOM



Keynote Talk I - JoAnn Buscaglia, FBI



February 18, 2025. 1:10 - 1:50 pm

Title: A Multidisciplinary Perspective on Research, Development, Technology, and Transition into Forensic Science Operations

Abstract: Research and technology play an increasingly important role in scientific advancement, and there has been a significant rise in forensic science research and development over the last 20 years, which may be attributed to many factors. The increased lay knowledge of forensic science and the “CSI effect” resulted in expectations of high-tech methods as “common practice” in forensic science; more universities began offering forensic science coursework and degree programs, which in turn focused more research attention on forensic science needs. The 2009 National Research Council of the National Academy of Sciences (NAS) report¹ on strengthening forensic science, which questioned the accuracy and reliability of some of the oldest and most renowned forensic science disciplines, specifically called for research to assess the scientific bases underpinning these disciplines.

In the wake of the 2009 NAS report, more research funds became available for both basic and applied research in forensic science; however, increases in funding and research effort do not always yield a significant increase in useful products transitioned into operational practice. It is important to note that only a small fraction of research and development in most scientific endeavors ever reach successful completion, and an even smaller percentage are put into practice. With the ever-increasing scrutiny of forensic science, it is vitally important to continuously advance technologically and to insure the successful transition of research products into the operational forensic science laboratory. This presentation will discuss the value of research, development, and technology in multiple forensic science disciplines and the challenges of transitioning that research into operational practice. Factors contributing to successful implementation as well as impediments to transition will be discussed using examples from research in latent prints, trace evidence, and questioned documents. Understanding the factors for successful transition will help forensic practitioners rapidly adopt new technology and enhance the accuracy and reliability of forensic science.

¹National Research Council, National Academy of Sciences (2009) Strengthening Forensic Science in the United States: A Path Forward (National Academies Press, Washington, DC).

Bio: Dr. JoAnn Buscaglia is a Research Chemist with the FBI Laboratory in the Research and Support Unit, where she has worked for more than 25 years. JoAnn received her PhD from the City University of New York, and a B.S. and M.S. in Forensic Science (Criminalistics) from John Jay College of Criminal Justice. Prior to joining the FBI Laboratory, JoAnn worked for 10 years in academia and as a consultant scientist and quality assurance director for both private- and public-sector forensic science, environmental, and industrial hygiene laboratories. JoAnn's research is primarily focused in the areas of microscopy, microanalysis, and elemental analysis of trace materials, impression and pattern evidence, and the interpretation of data in a forensic context. JoAnn has coauthored and delivered over 275 technical presentations at professional and scientific conferences, and published extensively, including book chapters and research articles in the peer-reviewed scientific literature. She serves as a reviewer for journals and grants, and as a member of editorial and conference boards, advisory panels, and technical working groups, domestically and internationally. In addition to memberships in several forensic and scientific professional organizations, she is a Science and Technology Fellow of the Office of the Director of National Intelligence, a member of the CSAFE Research and Technology Transfer Advisory Board, and a Steering Committee member for the International Fingerprint Research Group. JoAnn previously served for 6 years as a member of the NIST

OSAC, first as Vice Chair on the Pattern Evidence Scientific Area Committee, and then on the Forensic Science Standards Board. JoAnn also currently serves as a mentor in the FBI/ORISE Visiting Scientist Program and previously in the Intelligence Community Postdoctoral Research Fellowship Program, and as a PhD reader and MS thesis advisor. JoAnn has been recognized for her research and contributions to forensic science with two FBI Director's Awards for Outstanding Scientific Advancement and numerous FBI performance awards, including two FBI Medal of Excellence awards. JoAnn also received the Security Industry Association's Women in Biometrics award, and the Paul L. Kirk Award, the highest honor given by the American Academy of Forensic Sciences, Criminalistics Section, of which she is a Fellow.

KEYNOTE TALK 2 - THOMAS P. PAONESSA JR., MITRE



February 18, 2025. 1:50 – 2:30 pm

Title: The Facts Matter --- Trust the Scientific Method

Abstract: This presentation delves into the evolution of science and technology, examining the crucial relationship between the scientific method and the individuals who have advocated for various findings throughout history. Beginning with Galileo's revolutionary perspective on the universe and extending to contemporary times, the talk emphasizes the importance of critical thinking in an era where information is rapidly consumed through digital devices. It encourages a reflective approach by posing three essential questions: What do you know? What don't you know? How do you know what you know?

Bio: Mr. Thomas Paonessa serves as the Chief Engineer for the Law Enforcement and Domestic Security Division within the Intelligence Center of The MITRE Corporation's National Security Engineering Center (NSEC). The NSEC is a federally funded research and development center sponsored by the Department of Defense. In his capacity as Chief Engineer, Mr. Paonessa ensures the technical robustness and quality of MITRE's efforts for its Department of Justice sponsors. His work spans various technical domains across MITRE, with a primary focus on developing innovative cyber concepts for MITRE's sponsors. Since joining MITRE in 2000, Mr. Paonessa has held numerous roles throughout his 25-year tenure. He has been instrumental in technical projects, including the design of systems for data sharing, processing, and analysis within the U.S. government. His contributions also extend to the development of research programs in cyber forensics and data forensics, addressing a broad spectrum of topics within the cybersecurity domain for government entities. Prior to his tenure at MITRE, Mr. Paonessa gained experience as both a government contractor and a government employee. His career commenced in laboratory settings, where he developed tamper-evident technologies. Utilizing his background in physics, he later managed the development of nuclear weapon effects models at the conclusion of the Cold War, assisting battle staff in nuclear warfare planning. Furthermore, he contributed to satellite modeling and educated Pentagon leadership on the capabilities of space-based assets. Mr. Paonessa holds a bachelor's degree in physics from Case Western Reserve University and a master's degree in physics from Kent State University.



KEYNOTE TALK 3 - LUCAS ZARWELL, NIJ



February 18, 2025. 2:30 – 3:00 pm

Title: A Perspective on Adopting New Technology in Forensics – This Isn't “New”

Abstract: Mr. Zarwell will share stories from his experiences in the field of forensic science and discuss his philosophy on adopting new technologies in forensics. He will reflect on the successes and challenges that shaped practices across the government he served, the ongoing issues that forensic science faces, and explore how advancements in technology may provide solutions.

Bio: Mr. Lucas Zarwell serves as the Office Director for the Office of Investigative and Forensic Sciences at the National Institute of Justice (NIJ), where he leads a team of forensic science experts. His work focuses on advancing research and development initiatives, establishing best practices, sharing key findings, and promoting the adoption of innovative forensic technologies across the nation. Before joining NIJ, Mr. Zarwell was the Chief Toxicologist for the District of Columbia Chief Medical Examiner, where he led the laboratory for over 12 years. His prior experience also includes roles at the DC Pre-Trial Services Forensic Drug Testing Laboratory and the Armed Forces Institute of Pathology Forensic Toxicology Laboratory. Mr. Zarwell is a certified toxicologist by the American Board of Forensic Toxicology, and holds a Masters in Forensic Science from George Washington University and an undergraduate degree in both marine science and biology. His current priorities include developing NIJ's next Forensic Science Operational Needs Assessment, enhancing the National Missing and Unidentified Persons System (NamUs), and expanding NIJ's portfolio of externally funded forensic science research. Mr. Zarwell has experience delivering lectures and presentations to a variety of professional and educational groups, including law enforcement personnel, attorneys, and medical staff, on topics related to forensic science and the programs of the National Institute of Justice (NIJ). Lucas has been married for 19 years and has two children. He has lived in Washington, D.C., for over 25 years.



PANEL I: ARTIFICIAL INTELLIGENCE (AI) IN FORENSICS

February 18, 2025. 3:15 – 4:30 pm

Moderator

Yong Guan (Iowa State University & CSAFE)

Panel speakers

Zeno Geradts (University of Amsterdam & Netherlands Forensic Institute)

JoAnn Buscaglia (FBI)

Thomas P. Paonessa Jr. (MITRE)

Kenneth Aschheim (NYC - Office of Chief Medical Examiner)

Katherine Scafide (George Mason University, Forensic Nursing)

Panel Description: Artificial Intelligence (AI) is revolutionizing forensic science, offering powerful tools to enhance accuracy, efficiency, and objectivity in criminal investigations. However, this transformation raises critical questions: Is AI a neutral tool for progress or a potential enabler of systemic bias and unchecked power? This session explores the dual nature of AI in forensic applications, from its ability to uncover hidden evidence and streamline processes to ethical concerns surrounding algorithmic biases, privacy breaches, and accountability. By examining real-world cases and emerging technologies, we aim to understand whether AI serves as a transformative ally or a potential tyrant in the pursuit of justice.

Moderator – Dr. Yong Guan (Iowa State University & CSAFE)



Bio: Dr. Yong Guan is a professor of Electrical and Computer Engineering, the Associate Director for the Research of Information Assurance Center at Iowa State University, and the Cyber Forensics Coordinator of the NIST Center of Excellence in Forensic Sciences – CSAFE. He received his Ph.D. in Computer Science from Texas A&M University in 2002 and MS and BS in Computer Science from Peking University in 1996 and 1990, respectively. With the support of NSF, IARPA, NIST, and ARO, his research focuses on security and privacy issues, including digital forensics, network security, and privacy-enhancing technologies for the Internet. The solutions have addressed attack attribution issues, secure network coding, key management, localization, computer forensics, anonymity, and online fraud detection. He served as the general chair of the 2008 IEEE Symposium on Security and Privacy (SP/Oakland 2008), co-organizer for the ARO Workshop on Digital Forensics, and the co-coordinator of Digital Forensics Working Group at NSA/DHS CAE Principals Meetings. Dr. Guan has been recognized with awards, including the NSF Career Award, the ISU Award for Early Achievement in Research, the Litton Industries Professorship, and the Outstanding Community Service Award of the IEEE Technical Committee on Security and Privacy. He is a Fellow of AAFS (American Academy of Forensic Sciences).



Panel Speaker - Dr. Zeno Geradts (University of Amsterdam & Netherlands Forensic Institute):



Bio: Dr. Geradts is a forensic scientist specializing in the application of artificial intelligence in criminal investigations. He is affiliated with the Netherlands Forensic Institute (NFI) and serves as a professor of forensic data science at the University of Amsterdam. As Past President of the American Academy of Forensic Sciences (AAFS), Dr. Geradts has been at the forefront of integrating cutting-edge AI technologies into forensic practices. He is also the editor of a comprehensive book on AI in forensic science in the AAFS Book series, reflecting his commitment to advancing the field while addressing its ethical and practical challenges.

Panel Speaker - Dr. JoAnn Buscaglia (FBI):



Bio: Dr. JoAnn Buscaglia is a Research Chemist with the FBI Laboratory in the Research and Support Unit, where she has worked for more than 25 years. JoAnn received her PhD from the City University of New York, and a B.S. and M.S. in Forensic Science (Criminalistics) from John Jay College of Criminal Justice. Prior to joining the FBI Laboratory, JoAnn worked for 10 years in academia and as a consultant scientist and quality assurance director for both private- and public-sector forensic science, environmental, and industrial hygiene laboratories. JoAnn's research is primarily focused in the areas of microscopy, microanalysis, and elemental analysis of trace materials, impression and pattern evidence, and the interpretation of data in a forensic context. JoAnn has coauthored and delivered over 275 technical presentations at professional and scientific conferences, and published extensively, including book chapters and research articles in the peer-reviewed scientific literature. She serves as a reviewer for journals and grants, and as a member of editorial and conference boards, advisory panels, and technical working groups, domestically and internationally. In addition to memberships in several forensic and scientific professional organizations, she is a Science and Technology Fellow of the Office of the Director of National Intelligence, a member of the CSAFE Research and Technology Transfer Advisory Board, and a Steering Committee member for the International Fingerprint Research Group. JoAnn previously served for 6 years as a member of the NIST OSAC, first as Vice Chair on the Pattern Evidence Scientific Area Committee, and then on the Forensic Science Standards Board. JoAnn also currently serves as a mentor in the FBI/ORISE Visiting Scientist Program and previously in the Intelligence Community Postdoctoral Research Fellowship Program, and as a PhD reader and MS thesis advisor. JoAnn has been recognized for her research and contributions to forensic science with two FBI Director's Awards for Outstanding Scientific Advancement and numerous FBI performance awards, including two FBI Medal of Excellence awards. JoAnn also received the Security Industry Association's Women in Biometrics award, and the Paul L. Kirk Award, the highest honor given by the American Academy of Forensic Sciences, Criminalistics Section, of which she is a Fellow.





Panel Speaker - Mr. Thomas P. Paonessa Jr. (MITRE)



Bio: Mr. Thomas Paonessa serves as the Chief Engineer for the Law Enforcement and Domestic Security Division within the Intelligence Center of The MITRE Corporation's National Security Engineering Center (NSEC). The NSEC is a federally funded research and development center sponsored by the Department of Defense. In his capacity as Chief Engineer, Mr. Paonessa ensures the technical robustness and quality of MITRE's efforts for its Department of Justice sponsors. His work spans various technical domains across MITRE, with a primary focus on developing innovative cyber concepts for MITRE's sponsors. Since joining MITRE in 2000, Mr. Paonessa has held numerous roles throughout his 25-year tenure. He has been instrumental in technical projects, including the design of systems for data sharing, processing, and analysis within the U.S. government. His contributions also extend to the development of research programs in cyber forensics and data forensics, addressing a broad spectrum of topics within the cybersecurity domain for government entities. Prior to his tenure at MITRE, Mr. Paonessa gained experience as both a government contractor and a government employee. His career commenced in laboratory settings, where he developed tamper-evident technologies. Utilizing his background in physics, he later managed the development of nuclear weapon effects models at the conclusion of the Cold War, assisting battle staff in nuclear warfare planning. Furthermore, he contributed to satellite modeling and educated Pentagon leadership on the capabilities of space-based assets. Mr. Paonessa holds a bachelor's degree in physics from Case Western Reserve University and a master's degree in physics from Kent State University.

Panel Speaker - Dr. Kenneth Aschheim (NYC - Office of Chief Medical Examiner)



Bio: Dr. Kenneth W. Aschheim, a board-certified forensic odontologist, is a distinguished leader in integrating forensic odontology with advanced computer software, combining his expertise as a prolific writer, skilled programmer, and innovator in dental technology. With over 20 years of forensic odontology informatics experience, he has developed innovative software programs, including the UDIM dental module for New York City's Unified Victim Identification System (UVIS) and the OdontoSearch website, in collaboration with Dr. Bradley Adams. Expanding into artificial intelligence, he partnered with Bright Forensics to create AI-based dental identification software. He has been the project lead on a machine learning project for dental age assessment and has also served as co-principal on an oral pathology initiative with the ITU and WHO. Finally, with extensive national and international experience and leadership positions in numerous national and international standard organizations, Dr. Aschheim served as the United States's principal subject matter expert on AI in dentistry and helped draft the first ISO standard for using AI to interpret 2D radiographs. He holds academic positions at NYU College of Dentistry and Mount Sinai Medical Center and serves as Assistant Chief Forensic Odontologist for New York City's Chief Medical Examiner, a member of DMORT Region 2, and a consultant to the National Center for Missing & Exploited Children.





Panel Speaker – Dr. Katherine Scafide (George Mason University, Forensic Nursing)



Bio: Dr. Katherine “Kat” Scafide is an Associate Professor at George Mason University in the School of Nursing. As a forensic nurse, Dr. Scafide worked as a pediatric and adult sexual assault nurse examiner and was a death investigator for the State of Maryland’s medical examiner’s office. Dr. Scafide obtained her MSN and PhD at Johns Hopkins University. At Mason, her responsibilities involve teaching and mentoring PhD students while managing her federally funded program of research. Dr. Scafide leads an interdisciplinary research team whose interests focus on addressing the disparity in the identification and documentation of injuries among victims of violence, particular those of color, using new, innovative technologies. Her scholarship includes numerous peer-reviewed publications in leading forensic journals and presentations at conferences featuring national and international forensic clinical audiences. Dr. Scafide is a fellow of the American Aca

PANEL 2: EMERGING TECHNOLOGIES AND LEGAL IMPLICATIONS

February 18, 2025. 4:30 – 6:00 pm

Moderator:

Katharine Pope (RTI, International)

Panel Speakers:

Alicia Carriquiry (Iowa State University & CSAFE)

Lucas Zarwell (NIJ)

Donald Shelton (Retired Circuit Judge of Michigan & University of Michigan)

Nancy Downing (University of North Texas - Health Science Center)

Sarah Chu (Perlmutter Center for Legal Justice at Cardozo Law)

Panel Description: Is the rapid advancement of technology in forensic science transforming how practitioners conduct case investigations, analyze evidence, and pursue justice? This panel will explore how emerging tools and techniques are addressing long-standing challenges in the field while introducing new legal and ethical considerations. From innovations in DNA analysis and machine learning to research that enhances the accuracy and reliability of forensic evidence, these developments are driving progress but also sparking debate about implications in the courtroom and beyond. The discussion will examine the delicate balance between embracing technological advancements and maintaining rigorous standards of practice, as well as the need for policies that safeguard the ethical collection and use of sensitive data. By reflecting on the



successes and challenges of these technologies, this panel aims to provide critical insights into the intersection of science, law, and society.

Moderator - Katharine Pope (RTI, International)



Bio: Kat Pope completed her master's degree in Forensic Anthropology at TX State University – San Marcos and is currently working on her PhD in Anatomy and Human Identification at the University of Dundee; her dissertation topic is examining the use and limitations of forensic anthropologists during the investigation of unidentified human remains cases. Investigating historical and modern cold cases is a top priority in her career, which began after receiving a postgraduate fellowship at the Department of Defense POW/Missing Personnel Office (now called the Defense POW/MIA Accounting Agency) working as a Casualty Historian in the WWII Section. After spending a month in the NYC – OCME Anthropology Unit as a Visiting Scientist, her career turned to fieldwork. She worked as a Medicolegal Death Investigator in New York, New Jersey, Maryland, and Delaware medical examiners' offices using her forensic anthropology experience to investigate incoming skeletal casework and manage long term unidentified human remains cases. She currently works for RTI International, formally assigned to the National Missing and Unidentified Persons System (NamUs) program as a Cold Case Analyst. She is a Forensic Anthropologist for DMORT – Team II. She is a Fellow of the AAFS Anthropology section and a Diplomate of the American Board of Medicolegal Death Investigators. She is the Chair of the Society of Forensic Anthropologists (SOFA) and the AAFS Vicarious Trauma committee. During the COVID pandemic, she created Forensics Found, a community of forensic practitioners seeking mentorship, support, and trainings in mental health and wellness. She produced the Forensics Found podcast, where she interviewed over 20 forensic professionals in an attempt to normalize practitioners' experiences and demonstrate our resiliency.

Panel Speaker - Dr. Alicia Carriquiry (Iowa State University & CSAFE)



Bio: Dr. Alicia Carriquiry joined the faculty in Statistics at Iowa State in 1990. She is currently Distinguished Professor of Liberal Arts and Sciences and President's Chair in Statistics and is the Director of the Center for Statistics and Applications in Forensic Evidence (CSAFE), a NIST Center of Excellence. She is an elected member of the National Academy of Medicine and of the American Academy of Forensic Science, and is also a Fellow of the American Association for the Advancement of Science, the American Statistical Association, the Institute of Mathematical Statistics, the International Society for Bayesian Analysis and the International Statistical Institute. Carriquiry's research interests include Bayesian methods, sampling, study design, and application of machine learning approaches in biological and forensic problems. She has worked extensively on problems in human nutrition and in the last several years has established an active research program in forensic statistics. She has published about 160 peer-reviewed articles and has mentored 22 doctoral students, about 40 MS students, six post-doctoral researchers, and many brilliant undergraduates.



Panel Speaker – Mr. Lucas Zarwell (NIJ)



Bio: Mr. Lucas Zarwell serves as the Office Director for the Office of Investigative and Forensic Sciences at the National Institute of Justice (NIJ), where he leads a team of forensic science experts. His work focuses on advancing research and development initiatives, establishing best practices, sharing key findings, and promoting the adoption of innovative forensic technologies across the nation. Before joining NIJ, Mr. Zarwell was the Chief Toxicologist for the District of Columbia Chief Medical Examiner, where he led the laboratory for over 12 years. His prior experience also includes roles at the DC Pre-Trial Services Forensic Drug Testing Laboratory and the Armed Forces Institute of Pathology Forensic Toxicology Laboratory. Mr. Zarwell is a certified toxicologist by the American Board of Forensic Toxicology, and holds a Masters in Forensic Science from George Washington University and an undergraduate degree in both marine science and biology. His current priorities include developing NIJ's next Forensic Science Operational Needs Assessment, enhancing the National Missing and Unidentified Persons System (NamUs), and expanding NIJ's portfolio of externally funded forensic science research. Mr. Zarwell has experience delivering lectures and presentations to a variety of professional and educational groups, including law enforcement personnel, attorneys, and medical staff, on topics related to forensic science and the programs of the National Institute of Justice (NIJ). Lucas has been married for 19 years and has two children. He has lived in Washington, D.C., for over 25 years.

Panel Speaker – Hon. (ret.) Donald E. Shelton, JD PhD (University of Michigan)



Bio: Dr. Donald Shelton served for 25 years as a trial judge in Ann Arbor, Michigan. He obtained his laws degree from the University of Michigan, his Masters degree in Criminology and Criminal Justice from Eastern Michigan University and his PhD in Judicial Studies from the University of Nevada Reno. Following his retirement from the bench, Judge Shelton was the Director of the Criminology and Criminal Justice Program at the University of Michigan Dearborn for 10 years. His doctoral dissertation was on the state of forensic science in the United States, and he has been a prolific author, teacher and presenter in the field of forensic science evidence for over 20 years. He is the author of two forensic science books, "*Forensic Science in Court: Challenges in the 21st Century*" and "*Forensic Science Evidence: Can the Law Keep Up with Science?*" and has published over 30 scholarly articles on forensic science issues. Dr. Shelton is an AAFS Fellow, past Chair of the Jurisprudence Section, and has presented at every AAFS conference since 2013. Most recently he has served for Governor Gretchen Whitmer on the Michigan Forensic Science Task Force and teaches forensic science online at Michigan State University, the University of Arizona, and Purdue University.

Panel Speaker – Dr. Nancy Downing (University of North Texas – Health Science Center)





Bio: Dr. Nancy Downing, PhD, RN, SANE-A, SANE-P, FAAN, is a Professor at the University of North Texas Health Science Center College of Nursing in Fort Worth. Dr. Downing has been a practicing forensic nurse for over 20 years, providing care to patients across the lifespan. Her research focuses on intersections of trauma, abuse, substance use, and mental illness and development of innovative interventions to improve health and justice outcomes after interpersonal violence. She has lead projects to develop technology to provide telehealth services to rural patients without access to experienced sexual assault nurse examiners and technology to provide information and support to patients after receiving medical forensic sexual assault examinations. She was involved in Dr. Scafide's research examining use of alternate light sources to improve bruise assessment. Dr. Downing serves as Vice Chair of the OSAC Forensic Nursing Subcommittee and has served on the Texas Forensic Science Commission since 2016. Her work in

Panel Speaker – Dr. Sarah Chu (Perlmutter Center for Legal Justice at Cardozo Law)



Bio: Dr. Sarah Chu is the director of policy and reform at the Perlmutter Center for Legal Justice at Cardozo Law where she leads science and justice policy initiatives. Prior to this role, Sarah spent 15 years leading forensic science policy at the Innocence Project. Her research interests include oversight and accountability of criminal investigative and forensic science methods and technologies; their ethical, legal, and social implications; and capacity for just and equitable implementation. Dr. Chu served on the Scientific Inquiry and Research Subcommittee of the National Commission on Forensic Science and was the 2021 recipient of the Legal Aid Society's Magnus Mukoro Award for Integrity in Forensic Science. She holds bachelor degrees in Biochemistry/Cell Biology, Communication, and a Masters in Biology from the University of California, San Diego; a Masters in Epidemiology from Stanford University; a doctorate in Criminal Justice at John Jay College of Criminal Justice/CUNY Graduate Center; and was a fellow at the Harvard Medical School Center for Bioethics from 2023-2024.